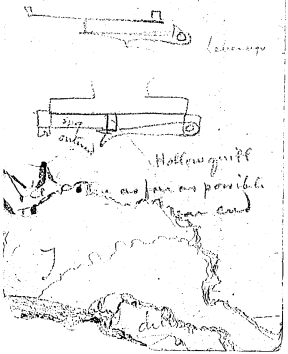
Notebook, PN-88-08-16

This pocket notebook was begun by Edison on August 16, 1888, and was used for notes and drawings relating to cylinder and disc phonographs, wax cylinders, and recording styli. There are also many notes on lamp filaments, ore milling, and aluminum manufacturing. The front cover is stamped "A Pad for a Penny." The pages are unnumbered, and much of the book is damaged. Approximately 40 pages have been used.

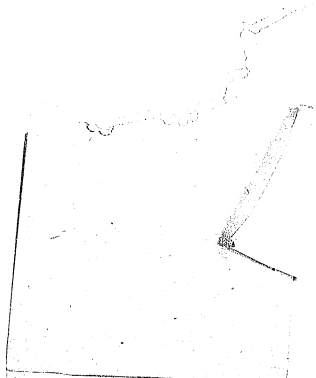
Experiments on plowing
Recorrs Aug 16 1858



slopact
shaftes also
run against
friction

by increased speed
we should be able
to use a Thicker
Reference needle.

dilb

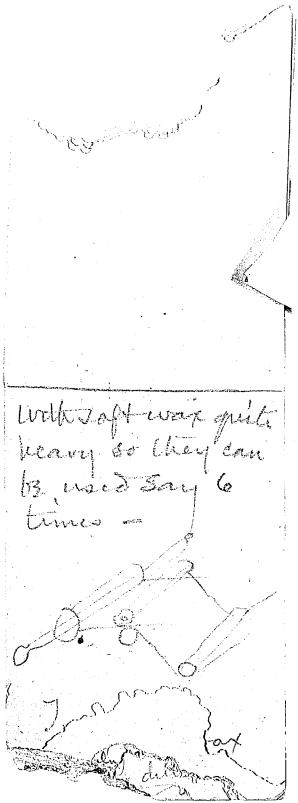


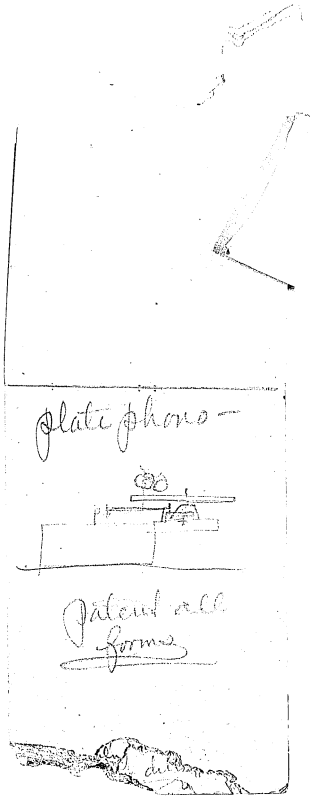
Investigate thoroughly the widest point, needle for recvg possible at so low valuation both for talking & Music —

Put some one on material

Cylds would thick

dim


with soft wax quite
heavy so they can
be used say 6
times —
7
Cat


platiphono—
patent all forms

It is very probable that
different solvents
Can be mixed with
Asphalt & cylinders
or rather shells
Moulded & immediately
after Cooling shelloid
that will have
Exactly the same
Coefficient of Expansion
[illegible] way
[illegible] be

A.S, free chlorine in presence of a pentachloride will perform reactions which it could not do without the penta & think it likely that Chromic Acid Sol in Benzol will be greatly improved by the presence of a more powerful oxidizer than CrO_3 such as perchloric acid formed by being liberated from perchlorate of Soda which perhaps perchl of K or ammonium + [illegible]

The perchloric Hydrate
$HClO_4 \cdot OH_2$ is only
spec g. 1.82, but the
definite hydrate is
a crystaline substance
Melts at 122 Fahr
This is the substance
for Gattermann or ordg
Carbon perchloric acid
itself is volatile
liquid its the most
powerful oxdzr known
[illegible]

What is the powerfully odorous stuff given off where you break a current & get spark from Copper or iron with oil on — see if oiled metals (several) all give same smell

Ozone ought to be formed in an atmosphere saturated with moisture kept at [illegible] degs above freezing point by using sulphur sticks or at 1200 volts

Manufacture used articles by dipping over a blank or pattern of paraffine etc — use mixture of proper amount boiled (mixed Oil & Asphalt) cut to 003 thick then immerse in Chloride of Sulphur in Kerosene gas- or benzine diluent.

Bleach tobacco -
peroxide hydrogen in
Ether -

~~dep in mixt of
peroxide manganese
or form it in pores
from a solution, then
dep in HCl~~

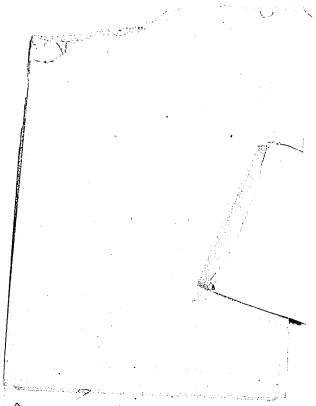
Ferricyanide K in Alkali
not for Oxide Nitrogen

Chromic Anhydride in
Acetic Acid dip
Tobacco –

Disulphide Pentasulphide
dip Tobacco.

Phosphorus Sulphide
Remove Overbottle
5 in Color Cured Tobacco

With Bleached Tobacco
take and outrinsh
[illegible] potash
no good –



Important to Experiment
on disassociation of.
Halogens in Lamp by
filament. Iodine pbly
be best. an absorption
tube of Hg or Zinc particles
to keep Iodine back &
have bulb cold – If the
Iodine on some granules
say gram all goes into
the volatile substance ~~thus~~
& filament not attacked ~~the~~
or the ash of filament not wanted
wanted ~~It~~ then there must be
some unknown element fixed
~~the~~ which does not
~~but cannot~~ ~~not~~

be exhausted. analyse
the whitestiff. look out
for Hall etc —

perhaps its this unknown
fixed element which
cannot be exhausted
that causes the change
of spectrum lines when
exhaustion is increased
that cause cp of
lamps to diminish more
rapidly as exhaustion
is higher — maybe the

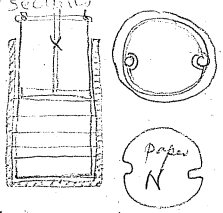
Why do metals smell
Tin, Iron, Copper -
~~Acids~~ invent ways of
increasing the odor
& then condense a lot
of it — try spectroscope
on it -

Perhaps Nitrate Tin Can
be used. Coating gold with
Tin — or Stannate of
Soda - might do - If the
gold can be tinned it
will be cheaper &
[illegible] as well —

To be used in lamp
in Halogen etc
dissociation Expts
Iodine Chloride Chromium
Molybdic Trichloride solid
Amorphous phosphorus
Arsenic
Chl Carbon
Chloride platin silver

ORE —
Perhaps H_2SO_4 with
Chromic acid hot
[illegible] will [illegible]
[illegible] pyrites [illegible]

Fractionprecipitation
of dissolved substances
by lowering temperature
by seeding



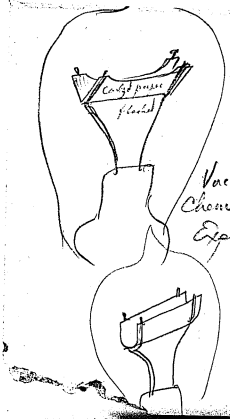
after each lowering
stirring press down
[illegible] by X a point
[illegible] mixed deposit

The reason finely divided
material burns rapidly
or is oxidized is not on
account of cohesion acting
on solid body to stop
Chemical Combn but solely
because the solid Conducts
the heat away so rapidly
that it cannot rise to the
Oxidation point, I
believe that Solid
lead plates could be
peroxidized in Strong
H_2SO_4 Sol if heated
[illegible] point of liquid
current.

I wonder if a
Bisulphide Carbon or
Benzol (or perhaps
Spirits Turpentine
be better) solution of
a Hard Asphalt
Could be made to
throw down fractions
the Asphalt by Cooling

Better try for fill
Soft pitch
limit — E

Electrode
Vacuum
Crucible
carbon
deposition
(1e flashes)


Vacuum
Charcoal
Experiments

Number of atoms in

Free Hydrogen	2
Chlorine	2
Bromine	2
Iodine	2
Nitrogen	2
Oxygen	2
Selenium	2
Tellurium	2
Mercury	1
Cadmium	1
Phosphorus	4
Arsenic	4
Sulphur	2 } 800°C — result at 6 } 500°C — slightly lower

27½
54
12
3

54
46
74

72
16
90

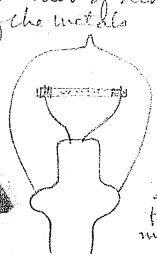
Process making
aluminum
disassociation of
Aluminum Methide
by filtering $Al_2(CH_3)_6$

Aluminum Ethide
$Al_2(C_2H_5)_6$

Aluminum propide
$Al_2(C_3H_7)_6$

Organo-metallic
bodies are made by
the action of the
Iodides or Bromides
Hydrocarbon Compounds
on the potassium or
Sodium alloys of the
metals.

Method of disassociation of the metals



hollow Carbon plugged at end & filled with metal, etc

the metal is put in put in ends & recarbonize to make them light — put on with [illegible] to make part of Lamp

Paraffine may be
oxidized to fatty acids
by boiling with
Chromic acid for
but a week for long
time —

Tetraiodomethane
on heating gives off
Iodine — & Ethene
Iodide of Lead will
do same thing —
also

72 – 355.5
120 | 72 | 2 | 31 0 | 3
6

355.5
8
120 | 28 | 4 | 1 0 | 2
24 0

Hexachlorobenzene
C_6Cl_6 – Melts
438.8 Fahr
see 2 pages further on
Boils 618.8 Fahr
ought be good insulator
as its unconflammable
& can be cheaply
made = simply passing
Chlorine through crude
Benzol saturated with
Manganese or
Iodine

This could take place of paraffine in oils cure & immense quantities sold —

a cheap reaction with Hydrocarbons would do immense 100 cp fels in the liquid & bring up only to point where ~~[illegible]~~ Carbon take place

Perchloronaphthalene

$C_{10}Cl_8$

Treating Naphthalene with Chlorine in excess in presence of pentachloride antimony

Melts 275° Fahr

Boils 757°?? Fahr

When fluorine is distilled over heated plumbic oxide a hydrocarbon is formed having more carbon than any known Hydrocarbon

$C_{20}H_{16}$

Tetrachloro hydroquinone

$C_6Cl_4(OH)_2$

Cannot be volatilized but decomposes

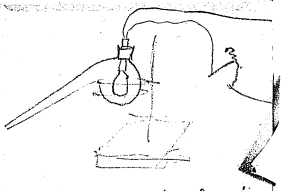
---

powerful alkaline
Sulf Carbamy none
of alkali metals
& amines see Miller
Thiorthio Compounds

706

Ethylenic Sulphide
White amorphous
Sublimate
C_2H_4S

Borneol
Camphor heated in
Olearic acid forms
Oleoxalate of Camphal
mp 187 Cent –
Miller 791



Fulmont distillation

Process for separating def fatty acids from natural Compounds

See foot note. Miller

c 837 —

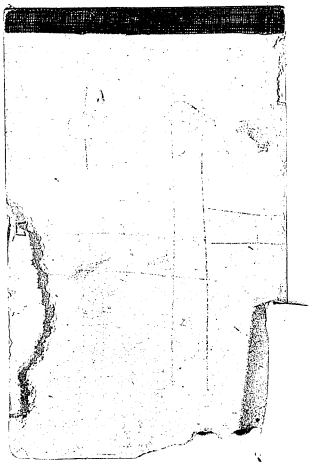
~~[illegible] acids of the~~
acetic series Easily
give substitution Compds.
with Halogens which
again form Salts with
Iodide —

Watts 1st Sep 261

Distilling Benzol
Leaves at bottom
red a Chloride sub
Called Berthalots
Bulmer slightly
Sul Ether leaving
[illegible] drop like
[illegible] —

Tolyl Sulphydrate
Compounds with
metals –
Lead Salt amorphous
yellow – mp 70 Cent
~~not Sup~~ Watt 1st
sup 291

Melting Point
Hexabromobenzene
~~314~~ Cent SOS S
Lit. notes Richter

Nitrobromosilicon-
silicophosphoric acid
from amorphous salts
with lead & also
Bismuth & manganese
3rd Supp 258

3rd Supp 250 - Salicylic
acid pendes of the iron
lemacrom also uranium cobalt